CLAIMS

What is claimed is:

1. An electromagnet core capable of accommodating a coil, the electromagnet core comprising:

a soft magnetic powder; and

a binder made of polyimide resin.

2. The electromagnet core according to claim 1, wherein a ratio of the polyimide resin to the soft magnetic powder is in a range of from 0.05 wt% to 1.0 wt%.

3. A measuring valve control electromagnet used for a liquid fuel injector, wherein the measuring valve control electromagnet comprises the electromagnet core according to claim 1.

4. A method of manufacturing an electromagnet core comprising the steps of accommodating a coil, the method comprising steps of:

forming a lubricant layer on a receiving portion of a surface of a frame of a molding die;

placing a mixture of soft magnetic powder and a binder made of polyimide resin into the molding die; and

molding the mixture by using a pressing process.

5. The method according to claim 4, wherein the step of forming a lubricant layer on a receiving portion comprises the steps of:

heating the receiving portion from room temperature to a high temperature;

coating the surface of the receiving portion with a solution containing a lubricant; and

vaporizing the solvent of the lubricant solution by the heat of the receiving portion.

6. The method according to claim 5, the method further comprising the step of adding a flow initiating material to the mixture.

7. A measuring valve control electromagnet used for a liquid fuel injector, the measuring valve control electromagnet comprising the electromagnet core according to claim 2.

8. The method according to claim 5, wherein the solution containing the lubricant is an aqueous solution.

9. The method according to claim 8, the method further comprising the step of adding a flow initiating material to the

mixture.

10. The electromagnet core according to claim 1, wherein grains of the soft magnetic powder are coated with an insulating film.

11. The electromagnet core according to claim 1, wherein the soft magnetic powder is made of electromagnetic soft iron or silicon steel.

12. The electromagnet core according to claim 1, wherein grain size of the soft magnetic powder is in a range of from 10 μm to 200 μm.

13. The electromagnet core according to claim 1, wherein grain size of the soft magnetic powder is in a range of from 10 μm to 100 μm.

14. The electromagnet core according to claim 1, wherein the polyimide resin is made of wholly aromatic polyimide, bismaleide polyimide, or additive-type polyimide.

15. The electromagnet core according to claim 1, wherein a ratio of the polyimide resin to the soft magnetic powder is in a range of from 0.1 wt% to 0.5 wt%.

16. The method according to claim 8, wherein the aqueous solution containing the lubricant is an aqueous solution of sodium benzoate or an aqueous solution of potassium dihydrogen phosphate.

17. The method according to claim 9, wherein the flow initiating material is ethylene bis-stearamide, ethylene bis-laurylamide, or methylene bis-stearamide, or a mixture thereof.

18. The method according to claim 9, wherein the flow initiating material is a material formed by adding:

30% or less lithium stearate or 12-hydroxy lithium stearate; to

ethylene bis-stearamide, ethylene bis-laurylamide, or methylene bis-stearamide, or a mixture thereof.

19. The method according to claim 9, wherein the amount of the flow initiating material added to the mixture is in a range of from 0.002 wt% to 0.1 wt%.

20. The method according to claim 9, wherein grain size of the flow initiating material is in a range of from 1 μm to 20 μm.